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IMPLICATIONS OF PROPOSED REGULATION 308 ON INDUSTRY

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1. INTRODUCTION

The Clean Air Program (CAP) introduced by the Ontario Ministry of the Environment in November 1987 proposes a major shift in the principles and practice of air regulation in Ontario. In order to begin implementation of the CAP, the OME has developed a discussion document which outlines a program for the revision of the General Air Regulation (the current Regulation 308), and has allowed a four month period ending in April 1988 for responses to this document from industry and concerned citizens. Following review of the responses, the Ministry will draft a new regulation.

The objective of this paper is to summarize, albeit in a very cursory manner, the major implications on industry in Ontario of the proposed revision, to the extent that these have been identified at this point. The summary draws on the initial analyses carried out by a number of industrial sectors, and available to me through my involvement with their deliberations. It will also be clear from the following that the short time frame available for response, as well as the vague nature of the proposals have prevented the carrying out of economic impact analyses of even a preliminary nature. For this reason, the major issues addressed in this paper, as well as in the industry responses, deal with regulatory feasibility and only secondarily with the issue of the economic burden on industry.

2. SCOPE OF CAP PROPOSAL

The discussion document proposes three major shifts in the way in which air quality is regulated in Ontario:

i) a level of emissions control will be mandated for each industry (the mechanism for defining the level is not determined at this time) and will constitute a requirement for all facilities without regard to the state of the air quality in the region.

ii) a greatly expanded list of controlled contaminants, together with a classification scheme which would determine the level of concern for the contaminant in terms of health and vegetation impacts. The toxicity classification would be used in imposing the appropriate control option.

iii) a total airshed approach to the permitting of air emissions, as a second level of control. This would require that any applicant for a permit first include the most stringent level of control as appropriate for the contaminant and the industry sector, and then determine the combined impact of all sources in the airshed, with the new source included, by the use of mathematical dispersion modeling. Should the total impact exceed the appropriate standard, the proponent would be required to determine what additional measures would bring about compliance of the total airshed.

The thrust of the revision is seen to be along several directions: firstly, the traditional alternative of dispersive control of ground level concentrations as the primary mechanism will no longer be acceptable as a control measure; the expanded contaminants list is intended to bring more facilities within the scope of the air regulation; and the proponent will not be evaluated in isolation as is presently done, but must demonstrate

compliance of the airshed as a whole with mandated air quality standards.

Although the discussion document addresses many of the provisions which the new regulation will encompass, it leaves a number of issues completely open and some of the others in the form of alternative options. For example, the document implies that the revision of Regulation 308 is only one component of the CAP program; however, there is no indication of the other significant changes being contemplated. Since some of the airshed provisions of the CAP necessarily implicate sources which are not subject to Regulation 308, it is crucial that the full scope of the changes be known in order to produce a well founded assessment. Thus, if some of the perceived problems of the revised regulation are dealt with in the unannounced components of CAP, it would have been very useful to be aware of these in formulating the response.

Options left open at this stage include the choice of two or three levels of control technology along with the ranking of each of the substances on the prescribed list of 250 contaminants. Since this classification is crucial to determining potential process and control equipment requirements, this ambiguity can of itself prevent the development of an economic impact assessment of the regulation.

Although a preliminary assessment of the scope of the regulation can be obtained from the available information in the discussion document, it is to be expected that many of the implications are not clearly understood at this time. This results primarily from the lack of familiarity with this type of regulatory approach both within industry and the Ministry. The U.S. is still in the process of resolving some of the issues after it introduced a regulatory framework along these lines (but of much narrower scope) some years ago.

3. IMPLICATIONS OF PROPOSED REGULATION

Environmental Quality

It is an accepted proposition both by Industry and the Ministry that the imposition of control of emissions at source will lead to better air quality than is presently achieved using a combination of source control and dispersion. This is based on the adage that "what goes up must come down". It should not be forgotten, however, that what doesn't go up can also end up in the environment in the form of liquid effluent and solid waste. The discussion document does not address the issue of the impact on the total environment of industrial and other activity, and therefore cannot make the claim that the environment on the whole will be improved. The proposal also fails to deal with the question of other contributing sources, such as mobile and roadway emissions, and influx from other jurisdictions. For some locations and some contaminants these sources will far outweigh the regulated sources, so that no demonstrable benefit to the environment will result from controlling the industrial sources.

The airshed approach to permitting, if not comprehensively applied through a planning process, can lead to disincentives to additional source control beyond the minimum necessary to meet the air quality standard. This results when a source of emissions is forced to maintain a historically obtained share of the airshed for purposes of future expansion.

These considerations do not invalidate the approach being proposed; however, they point to the need for a more thorough assessment of the overall implications of the proposal within the context of the actual situation, taking full account of all contributing sources and all compartments in the environment.

Continued Operation of Industry in Ontario

The approach to air emissions permitting suggested in the Discussion Document creates the real possibility that some industrial installations will be shut down in Ontario. This results from a combination of the two requirements that all existing installations must be relicensed under the new regulation within a fixed time interval after promulgation (presently suggested as five years) and that they demonstrate compliance of the total airshed with the standards. Where the present air quality is in violation of the proposed standard even in the absence of the proponent source, as is the case for suspended particulate in Southwestern Ontario where the industrial sources are not the major contributors, the only case for which approval to continue operation would presumably be given would be that of zero emissions of the contaminant.

A similar situation faces the installation which, after the incorporation of the mandated control equipment, still cannot demonstrate compliance with the standard. This can happen because the standard is very stringent, for example, the silica standard can be exceeded by background sources alone, or because the models tend to over-estimate the impact of the source on the ground level concentrations, or a combination of the two. The present proposal does not adequately recognize the inherent conservative nature of the models. Thus, even where measurements might demonstrate compliance with the standard, the model results take precedence in evaluating compliance for permitting purposes.

The failure to provide within the proposed regulation of a requirement on the Ministry to produce compliance plans for an airshed can have the same effect. For example, the applicant may fail to demonstrate compliance with the standard because of the superposition of other sources in the airshed; however, he may be using the existing emissions values for the other sources which have not yet been relicensed, rather than controlled emissions which will be in effect at some point in the future. A similar situation exists where present monitoring data are used to

demonstrate future compliance. If the Ministry had a total compliance plan for the airshed, this situation could be resolved.

Another provision which would have the effect of shutting down an installation is the proposed principle that "it is unacceptable to emit chemicals about which little or nothing is known", that is, those which have not yet found their way into the contaminants list. Thus, if some trace substances co-emitted in the smelting process are labelled as chemicals, for which no standards have yet been assigned, then the smelter must cease operation pending the execution of all the necessary studies into the effects of the substance.

Maintenance of Competitiveness Internationally

In order to stay competitive in an international market, particularly in anticipation of the Free Trade Agreement with the U.S., industry must be able to maintain or reduce costs as well as plan for growth. Both of these will be affected by the proposed regulation. Although the vagueness of the proposal and the limited response time have not provided sufficient opportunity for industry to address these questions adequately, it is possible to single out some of the obvious problems.

The principal problem is the introduction of provisions which create a large amount of uncertainty in terms of future requirements which will be imposed on the facility. Chief of these is the requirement to renew the C of A every ten years, with the intention of requiring the installation to implement the best control technology which is available at the time of renewal. However, because the modeling approach may also have been changed in the interim, and because the airshed may have become used up by other sources whether regulated or not (for example mobile sources, exempted sources, or background influx), the renewal could be denied. The fact that the airshed, as well as the models used for determining compliance will be undergoing changes with time also means that plans for growth cannot be made with any reliability.

If industry needs to build in contingency factors to cover such uncertainty in the future, the cost of doing business will be inflated, with the result that the Ontario industry loses its competitive advantage in the long run. We could then become importers of the commodity as well as the more polluted air from our neighbours.

4. INDUSTRY CONCERNS WITH PROPOSAL

The industry responses to the discussion document address all of the issues which are contained in the document, and it appears that there is broad agreement among the responses in terms of how industry perceives the development of the regulation. In the following, some of the key points made by industry are discussed.

Source Control

Industry supports the concept of control at source (bottom of the stack) as the prime means of maintaining ambient air quality. It is concerned, however, that the Ministry approach appears to call for "control for control's sake", even where no demonstrable problem exists. If the concern is with toxics, then why not restrict the relicensing of existing facilities to the toxic class of substances only. Where problems still exist in the traditional pollutants such as sulphur dioxide, the Ministry still retains the control order approach to enforce additional controls. In terms of mechanism, industry prefers the setting of emissions limits, with each industry developing its own strategy for meeting the mandated emissions limits.

De Minimis Criteria

The concept of qualifying a source under a de minimis clause, as a means of reducing the burden on very small installations, is considered a good measure. Under the proposal, however, these sources are not exempt from the airshed requirement of modeling, which in itself can negate any perceived benefit of the exemption. In order to make the concept workable,

the de minimis application could be treated as an exemption, which would have a different evaluation process from the C of A (Certificate of Approval) stream. The concept of making the de minimis criteria specific to the airshed would provide more flexibility in permitting in non-industrialized airsheds, while allowing for a more stringent requirement in highly populated and industrialized airsheds.

Airshed Approach

The airshed approach to permitting, because of the unresolved status of the proposal as discussed above, and the many potential problems in the implementation of such a concept, does not find unequivocal support in industry. As a minimum, in order to make the concept workable, the proposed regulation will need to address the issues of:

permitting in airsheds which are in **non-attainment** (i.e. where measured concentrations exceed the standard) at present, including the problem of apportionment of the airshed,

provision of **monitored data** on air quality with respect to the large number of contaminants,

adoption of the principle that monitored data can over-ride the results of modeling for purposes of permitting,

the requirement for a workable and tested regulatory modeling package,

provision of an **off-set scheme** which would permit industrial growth,

a **planning process** which can take into account the projected changes in an airshed, in order to provide the needed mechanism for evaluating licensing applications.

Classification of Contaminants

The ranking of contaminants is generally considered desirable, although the use of a toxicity scoring system is considered too simplistic for the complex questions being dealt with. As an example, in the final evaluation, the carcinogenic impacts are given the same priority as the phytotoxic impacts, which is probably not the Ministry's stated objective.

Standard Setting

There is a general disagreement with the Ministry's philosophy for setting ambient air standards. It is felt that standards should be set only for those substances which are known to, or have the potential to, exist in the environment in sufficient concentration to pose a risk. A standard should be set and the substance included on the contaminants list only when sufficient information has been obtained and documented, and where a consensus of expert opinion (including the Ministry, Industry, and the Public) has determined the standard.

Implementation Proposal

The strongest disagreement with the proposal is in the area of implementation of the new regulation. It is widely felt that the C of A procedures must be made more workable through several measures: a C of A could be issued for the entire installation, rather than piecemeal, thus making planning possible and reducing the burden on both the proponent and the Ministry; although a two part C of A is workable, it must contain a procedure for obtaining both parts before the new installation is constructed, in order to preclude the use of the C of A as a coercive mechanism; the Ministry must undertake to evaluate an application within a fixed time-frame.

Modeling Provisions

The modeling proposal, as presented in the discussion document, is not sufficiently developed, or tested at this time. For example, the Air Resources Branch is still in the process of making significant changes to the model code, the last being at the beginning of May. Since the new

models show large departures in terms of predicted maxima by comparison with the existing Regulation 308 models, this issue is in critical need of resolution before the regulated community can accept the models. Even more critical is the intended method for the use of the models. In the proposal, the model provides the final decision on the acceptability of a submission for C of A. Recognizing that the models are by construction conservative, the Ministry must develop a procedure for reconciling the model predictions for an airshed with the monitored data.

Regulation Development

There is a consensus within the industry responses that **the next phase in the process of developing the revised regulation cannot be the drafting of the regulation**. It is felt that neither the Ministry nor Industry have had sufficient opportunity to assess the full implications of the proposal or to carry out the necessary dialogue. On the basis of the industry responses, it is now possible to arrive at a more definite discussion document, which could be subjected to economic and other analysis through an open consultative process among the Ministry, Industry and the Public. Following this analysis, the Ministry would be in a position to draft a regulation which would be acceptable to all parties and serve the interests of protecting the environment as well as maintaining a viable industry in the province.